Subject Index to Volume 12

Acetoacetate, ketone body metabolism, diabetic skeletal muscle, E131

Acidemia, maternal, fetal blood flow and, (sheep), E454

ACTH: see Adrenocorticotropic hormone Acyl carnitine, metabolism, spontaneous hypertension, E183

Adenine nucleotides, mitochondrial, regulation of hepatic gluconeogenesis and, newborn, E498

Adenohypophysis, response to hypophysiotropic hormone, obesity and, E380 Adenosine monophosphate, cyclic

forskolin effects, E392

hemolytic placque assays, mammotroph response to, E337

renal, estrogen treatment effects (chicken), E626

Adenosine triphosphate, carbon monoxide hypoxia, lung phosphatidylcholine biosynthesis, E89

Adenylate cyclase

estrogen effects, reproductive activity and (chicken), E626

parathyroid hormone binding and, kidney, E437

Adipocytes cellular sensitivity, insulin receptor affinity and, gastric inhibitory polypeptide effects, E603

insulin resistance insulin deficiency effects, E312 sodium ion pump activity in, obesity,

insulin-stimulated glucose transport, vasoactive intestinal peptides in, E608 Adipose tissue, brown: see Brown fat

Adrenalectomy, regulation of sympathetic activity, obesity and, brown fat,

Adrenal gland

naloxone effects, euhydration and dehydration, E634

prolactin interaction, blood pressure regulation and, E614

Adrenal glomerulosa cells, dispersed, serotonin type 2 receptor effects, aldosterone production, E234

Adrenal hormones, prolactin interaction with, blood pressure regulation and, E614

Adrenocorticotropic hormone

diurnal stimulated and stress-induced release, mediated by ventral noradrenergic bundle, E219

naloxone effects, euhydration and dehydration, E634

Adrenocorticotropin

hypophysectomy, thermogenesis and brown fat activity without, E333 ease, cortisol inhibition of, gestation (lamb), E350

Aging, luteinizing hormone, follicle-stimulating hormone and α-subunit secretion, pituitary cells, male, E145

Alanine, flux, medium-chain triglyceride effects, E175

Albumin

copper transport, transcuprein and, E77 gene expression, control by insulin, hepatocytes, E447 receptors: see Receptors

Alcohol, chronic intake, mineral metabolism and, E584

Aldosterone

naloxone effects, euhydration and dehydration, E634

regulation of production, serotonin type 2 receptors and, E234

Amines, uptake, paraquat and, lungs, E506 Amino acids

branched-chain, metabolism, model, E646

infusion, metabolism and, model, E121 metabolism, trained exercise, E137 oxidation and turnover, medium-chain triglycerides, E175

α-Aminoisobutyric acid, transport, vascular smooth muscle cells, E292

Amniotic fluid, ionic concentration, chronic fetal vasopressin infusion and (sheep), E287

Anemia, work performance in, exercise training effects, E306

Anesthesia, carbohydrate metabolism and, liver, E525

Angiotensin II

function, full-term placenta, E366 metabolic clearance, pregnancy (sheep), E49

receptors: see Receptors

Angiotensin III, chronic peripheral and central infusion, hypertension during, E201

Antidiuretic hormone, regulation, insulin-dependent diabetes, E317

prostaglandin synthesis, diabetes effects,

smooth muscle cell cultures, insulin interactions, E292

Arachidonate, metabolism, neurotensininduced prolactin release and, E257 ATP: see Adenosine triphosphate

Atropine, pancreatic polypeptide release, basal and reflexive, E577 Awake state, diabetes, hepatic insuliniza-

tion, E152

Bacitracin, interactions, vascular smooth muscle cells, E292

Bethanechol, pancreatic polypeptide release, basal and reflexive, E577

Bile acids, premature weaning effects, cholesterol metabolism (guinea pig), E251

Blood-brain barrier capillaries, absence of albumin receptor, E264

testosterone transport, E534 Blood flow: see also Circulation; Microcirculation

muscle, reduced, metabolic adaptation,

pancreatic islets, morphology and, E43 regional, fetal, maternal hyperglycemia effects (sheep), E454

Blood pressure hypertension

during chronic peripheral and central infusion of angiotensin III, E201 naloxone effects, euhydration and dehy-

dration, E634

regulation, prolactin interaction with adrenal hormones, E614 regulation of, obesity, E209

Body weight, regulation, thermogenesis and brown adipose tissue atrophy, F299

capillaries, absence of albumin receptor, E264

developing, glucocorticoid receptors in tissue (sheep), E345

testosterone transport, E534

Brown adipose tissue: see Brown fat Brown fat

activity, thermogenesis, hypophysectomy without corticotropin, E333 atrophy, mitochondrial thermogenin

content, fasting, E99 sympathectomy, thermogenesis and,

E239 sympathetic activity, obesity and, E299

thermogenesis, meal-induced, thyroid hormone metabolism and, E519

Cachexia, cancer, nuclear RNA polymerase activity, E461

deficiency, parathyroid hormone effects, E568

estrogen effects, reproductive activity and (chicken), E626

hemolytic placque assays, mammotroph response to, E337 metabolic balance, chronic alcohol in-

take effects, E584

Calcium channel agonist, anterior pituitary secretion and (rat, monkey), E326 Calcium ions

dependence, luteinizing hormone synthesis and release, E165

transport, mitochondria, hormone action and, E543

Calorimetry

direct heat-sink, humans, E416 indirect, overfeeding and, E470

cAMP: see Adenosine monophosphate, cyclic Capillaries, brain, absence of albumin re-

ceptor, E264 Carbohydrates, metabolism, pentobarbital effects, liver, E525

Carbon monoxide, hypoxia, lung phosphatidylcholine biosynthesis, energy de-

pendence, E89 Cardiovascular function parathyroid hormone effects, E187

Carnitine, metabolism, altered, spontaneous hypertension, E183

Caudofemoralis muscle

insulin stimulation of electrogenic pump, extracellular potassium and, E12 nbrane potential and glucose uptake,

insulin action, potassium effects,

Cell: see also specific type culture, follicle-stimulating hormone induced differentiation, somatomedin C effects, E26 volume: see Volume

Central nervous system, vasopressin, hemorrhagic shock and, E244

Ceruloplasmin, copper transport, transcu-

prein and, E77
Chloride, excretion, vasoactive intestinal peptide effects, kidney, E494

Chloroquine, interactions, vascular smooth muscle cells, E292 Cholesterol, metabolism, premature wean-

ing effects (guinea pig), E251
Choline, carbon monoxide hypoxia, lung
phosphatidylcholine biosynthesis,

Chromatography, high-pressure liquid, parathyroid hormone binding, renal and osseous, E437

Circadian rhythms: see Rhythms Circulation: see also Blood flow; Microcirculation

prehepatic, glucoregulatory hormone se-

cretory patterns, E34
Clearance, metabolic, angiotensin II, pregnancy (sheep), E49

Cold, exposure, norepinephrine effects on gluconeogenesis, liver, E281

Compartmental analysis, residence time moments in, E409

Copper, pools, plasma protein involvement, E77

Corticotropin, replacement, hypophysectomy, thermogenesis and brown fat activity without, E333

naloxone effects, euhydration and dehydration, E634

ma, adrenocorticotropin release, gestation (lamb), E350

Cremaster muscle, prostaglandin synthesis, diabetes effects, E374

Cyclic adenosine monophosphate: see Adenosine monophosphate, cyclic

Cyproheptadine, serotonin type 2 receptor effects, aldosterone production, E234

Cytochrome c, work performance, exercise training effects, E306

Deoxycholate, lipoprotein lipase recovery, adipose tissue, E107
2-Deoxyglucose, uptake, insulin action,

high potassium and, skeletal muscle,

2-Deoxy-D-glucose, pancreatic polypep-tides, pentobarbital effects, E577

Deoxyribonucleic acid, albumin gene expression, insulin control of, hepatocytes, E447

Desensitization, luteinizing hormone release, gonadotropin-releasing hormone stimulation of, anterior pituitary cells, E619

Detergent, lipoprotein lipase recovery, adipose tissue, E107

Development: see also Growth; Maturation brain tissues, glucocorticoid receptors in (sheep), E345

Diabetes

hepatic insulinization, awake state, E152 insulin-dependent regulation of vasopressin, E317

ketone body metabolism, skeletal mus cle, E131

prostaglandin synthesis and, aortic and cremaster muscle, E374

training and, enzymatic adaptations of skeletal muscle, E360

Diacylglycerol lipase, arachidonate metab-olism and, neurotensin-induced prolactin release, E257

Diet: see Feeding Digestion, cephalic phase, E639 1,25-Dihydroxyvitamin D3: see Vitamin D3

DNA: see Deoxyrinobucleic acid Dopamine, hemolytic placque assays

mammotroph response to, E337 Dynorphin A, distribution, hemorrhagic shock effects, E244

Electrogenic pump: see Pump Electrolytes, transport, vasoactive intes-tinal peptides and, kidney, E494

Energy expenditure, short-term, mixed-diet overfeeding and, E470

Energy balance

hypophysectomy, corticotropin replacement and, E333

subdiaphragmatic vagotomy, brown fat sympathectomy and, E239

thermogenesis, fasting and, E99 Energy metabolism, leucine turnover and oxidation, trained exercise, E137

Enkephalins, distribution, hemorrhagic shock effects, E244

Enzyme marker analysis, insulin binding and glucose transport, skeletal mus-cle sarcolemmal vesicles, E398

Enzymes: see also specific enzyme reduced muscle blood flow, metabolic adaptation, E70

receptors: see Receptors treatment, renal cAMP and 1,25-dihydroxyvitamin D₃ synthesis (chicken), E626

Estrous cycle, pregnancy, estrogen receptors during, E589

Ether, stress, ACTH release, ventral noradrenergic bundle, E219 Euglycemic clamp, fasting and refeeding

and, insulin effects, E514

exertion, systemic lactate kinetics during, E595

gluconeogenic enzyme activities. changes, time course, E6

graded, systemic lactate kinetics during, **E595**

physical activity, overfeeding and, E470 physical conditioning, leucine turnover

and oxidation in, E137 reduced muscle blood flow, metabolic activation, E63, E70

iron deficiency and, work performance with, E306

leucine turnover and oxidation in,

muscle enzymatic adaptations, diabetes and, E360 Exertion: see Exercis

Fasting

brown adipose tissue atrophy, mitochon-drial thermogenin content, E99 glucose homeostasis, intragastric triglyc-eride administration, newborn (pig),

refeeding and, insulin action, euglycemic clamp and, E514

brown: see Brown fat intraduodenal, molecular heterogeneity of immunoreactive gastric inhibitory

polypeptide, E195 Fat cells: see Adipocytes

Fat free body, hydration of, protein deple-tion, E227

Fatty acids

free, carbon monoxide hypoxia, lung phosphatidylcholine biosynthesis, E89

oxidation, intragastric triglyceride administration and, newborn (pig), E268

Feeding

brown fat thermogenesis, thyroid hor-mone metabolism, E519

short-term, mixed diet overfeeding, body composition and energy balance, E470

Fetus: see also Placenta; Pregnancy adrenocorticotropin release, cortisol inhibition of (lamb), E350

blood flow and metabolism, maternal hyperglycemia effects, (sheep), E454

cartilage sulfate uptake and serum sul fate, decreases during gestation (sheep), E115

chronic vasopressin infusion, amniotic fluid ionic concentration and (sheep), E287

glucocorticoid receptors, developing brain tissues (sheep), E345 maternal glucose exchange, E330

Fibrin, leucine effects, α-ketoisocaproate nutritional efficiency, E355

Fluid, amniotic: see Amniotic fluid Follicle-stimulating hormone

decreased secretion, pituitary cells, aging male, E145

differentiation induced by, somatomedin C effects, granulosa cells, E26

differential effects, luteinizing hormone and growth hormone release, E392 estrogen effects, reproductive activity and (chicken), E626

Fructose bisphosphatase exercise effects, time course, E6 metabolism, pentobarbital effects, liver, E525

Gastric inhibitory polypeptide: see Polypeptides

Gestation, adrenocorticotropin release, cortisol inhibition of (lamb), E350

insulin, somatostatin, and, secretory pat-

H

terns, prehepatic circulation, E34 norepinephrine effects, cold exposure and, liver, E281 perinatal regulation, liver, E498 Glucocorticoid, receptors: see Receptors Glucokinase, exercise effects, time course, RA

Gluconeogenesis

exercise effects, time course, E6 intragastric triglyceride administration and, newborn (pig), E268

norepinephrine effects, cold exposure and, liver, E281

regulation, hepatic, newborn, E498 Glucos

carbon monoxide hypoxia, lung phosphatidylcholine biosynthesis, E89 disposal, insulin-stimulated, resistance

to, E312

distribution, hepatic insulinization, E152 exchange, maternal/fetal, E330

homeostasis, intragastric triglyceride ad-ministration and, newborn (pig),

intraduodenal, molecular heterogeneity of immunoreactive gastric inhibitory polypeptide, E195

oxidation, muscle, E433

transport

adipocytes, obesity and, E160 insulin binding and, skeletal muscle sarcolemmal vesicles, E398 insulin-sensitive, adipocytes, E603, EGOR

uptake, insulin action, high potassium and, skeletal muscle, E17 utilization, fasting and refeeding effects,

E514

Glucose-6-phosphate dehydrogenase, exercise effects, time course, E6

Glucoregulatory hormone, secretory terns, prehepatic circulation, E34

Glycogenolysis, norepinephrine effects, cold exposure and, liver, E281 Glycolytic enzymes, adaptations, diabetes and training effects, skeletal muscle,

E360 Gonadal hormone, growth hormone release and, pituitary, E276

Gonadotroph, response, obesity, E380 Gonadotropin-releasing hormon luteinizing hormone release and, anterior pituitary cells, E619

synthesis and release, calcium ion dependence, E165

Growth: see also Development; Maturation skeletal, fetal cartilage sulfate uptake and serum sulfate decreases (sheep),

Growth factor, insulin-like, somatomedin C effects, granulosa cells, E26

Growth hormone binding to liver membranes, hypophysectomy and, E56

forskolin effects, E392 gonadal hormone effects, pituitary, E276

somatomedin C effects, granulosa cells, E26

Growth hormone-releasing factor, obesity,

adenohypophyseal response, E380 Guanosine diphosphate, binding, brown adipose tissue atrophy and, fasting,

Half-life, angiotensin II metabolic clearance, pregnancy (sheep), E49
Heart, hypertrophy: see Hypertrophy
Heart ventricles, combined output, fetal, maternal hyperglycemia effects

(sheep), E454 Heat, evaporative loss, direct heat-sink cal-orimeter for humans, E416

Hemorrhagic shock: see Shock

Heparin, postheparin plasma enzyme, adipose tissue lipoprotein lipase, E107 Hepatocytes

albumin gene expression, control by insulin, E447

carbohydrate metabolism, pentobarbital effects, E525

triglyceride hydrolysis, ketogenesis and, newborn, E478

Hindlimb, perfusion, reduced muscle blood flow, metabolic adaptation, E70

Hippocampus, glucocorticoid receptors, developing brain tissues (sheep), E345 Hormonal action, calcium ion transport and, mitochondria, E543

Hormones: see also specific hormone plasma protein-bound, transport, brain, F534

Humidity, measurement, direct head-sink calorimeter for humans, E416

Hydration, fat-free body, protein depletion and, E227

Hydrolysis, triglyceride, ketogenesis and, liver, E478

3-Hydroxybutyrate, ketone body metabo lism, diabetic skeletal muscle, E131 6-Hydroxydopamine, control of ACTH,

ventral noradrenergic bundle, E219 25-Hydroxyvitamin D₃: see Vitamin D₃

Hypercholesterolemia, neonatal, premature weaning effects (guinea pig), E251 Hyperglycemia, maternal, fetal blood flow and metabolism and, (sheep), E454

Hyperpolarization, insulin action, skeletal muscle, E12

Hypertension

chronic angiotensin III-induced, peripheral and central infusion, E201 spontaneous, altered carnitine metabolism in, E183

Hypertrophy, cardiac, altered carnitine metabolism, spontaneous hypertension, E183

Hypophysectomy

rowth hormone administration and binding to liver membranes, E56 without corticotropin replacement, thermogenesis and brown fat activity, E333

Hypophysiotropic hormone, adenohypo-physeal response to, obesity and, E380

Hypotension, adrenocorticotropin response to, cortisol inhibition of, gestation (lamb), E350

Hypothalamus, glucocorticoid receptors, developing brain tissues (sheep),

Hypoxemia, fetal, maternal hyperglycemia and (sheep), E454

Hypoxia

carbon monoxide, lung phosphatidylcholine biosynthesis, energy dependence, E89

reduced muscle blood flow, metabolic activation, E63, E70 regulation of hepatic gluconeogenesis and, newborn, E498

Insulin

action, fasting and refeeding effects, euglycemic clamp, E514 albumin gene expression and, hepato-

cytes, E447

binding, glucose transport and, skeletal muscle sarcolemmal vesicles, E398 conditioned response, cephalic phase of digestion, E639

deficiency, insulin resistance and, E312 -dependent diabetes, regulation of plasma vasopressin, E317

electrogenic pump stimulation by, high extracellular potassium concentration, E12

glucagon, somatostatin, and, secretory patterns, prehepatic circulation, E34 coneogenesis regulation and, liver, newborn, E498

glucose transport, vasoactive intestinal peptide effects, adipocytes, E608

interaction, vascular smooth muscle cells, E292

receptors: see Receptors resistance: see Resistance

secretion, cephalic phase, E639 sodium ion pump activity, adipocytes, obesity and, E160

thermogenesis and, subdiaphragmatic vagotomy and brown fat sympathectomy effects, E239

treatment, muscle enzymatic adaptations with training, E360 Insulinemia, cephalic phase, digestion,

E639 Insulinization, hepatic, diabetes, awake

state, E152 Insulinlike growth factor I, interactions

vascular smooth muscle cells, E292 Iodothyronine 5'-deiodination, obesity, R209

Ionophore A23187, luteinizing hormone, synthesis and release, E165

Iron, deficiency, work performance, exercise training effects, E306

Islets of Langerhans: see Pancreatic islets Isotope, stable, [15N]leucine infusion and leucine metabolism, model, E121

Ketanserin, serotonin type 2 receptor effects, aldosterone production, E234 esis, development of, triglyceride hydrolysis and, liver, E478

α-Ketoisocaproate leucine metabolism and, E175

model, E121, E646

nutritional efficiency of, leucine and, F355

Ketone body, metabolism, diabetic skeletal muscle, E131

Ketosis, diabetic, skeletal muscle, E131

iodothyronine 5'-deiodination regulation, obesity, E209

parathyroid hormone and hormone fragments, binding, E437

vasoactive intestinal peptide effects, **R494**

Lactate, kinetics, graded exercise effects,

Lactogenic sites, growth hormone binding,

liver, hypophysectomy and, E56 Lecithin, adipose tissue lipoprotein lipase recovery, E107

infusion, effects on leucine metabolism, model, E121

a-ketoisocaproate nutritional efficiency and, E355

metabolism, model, E646

turnover, oxidation and, trained exercise,

turnover and oxidation, medium-chain triglyceride infusion, E175

Lipoprotein lipase, adipose tissue, postheparin plasma enzyme and, E107 Liposomes, targeted, hepatic insulinization, E152

Lipoxygenase, arachidonate metabolism, neurotensin-induced prolactin release, E257

carbohydrate metabolism, pentobarbital effects, E525

circulation: see Circulation

gluconeogenesis

cold exposure and, norepinephrine effects, E281

regulation, newborn, E498 growth hormone binding to, hypophysectomy and, E56

iodothyronine 5'-deiodination regulation, obesity, E209

ketone body metabolism, diabetic skeletal muscle, E131

selective insulinization, diabetes, awake state, E152

spontaneous hypertension, altered carni-

tine metabolism, E183 triglyceride hydrolysis, development of

ketogenesis and, E478 tumor-host, nuclear RNA polymerase ac-

tivity, E461 Liver cells: see Hepatocytes

Lungs

amine uptake, paraquat effects, E506 phosphatidylcholine biosynthesis, energy dependence, carbon monoxide hypoxia studies, E89

Luteinizing hormone

decreased secretion, pituitary cells, aging male, E145

gonadotropin-releasing hormone stimulation of, anterior pituitary cells, E619

rele

calcium channel agonist effects, pituitary (rat, monkey), E326 forskolin effects, E392

synthesis and release, calcium ion dependence, E165

Luteinizing hormone-releasing factor, obesity, adenohypophyseal response,

Luxuskonsumption, overfeeding and, E470 Lymph, mesenteric, vitamin D-binding protein in, E1

Lysosomal acid lipase, ketogenesis and, liver, newborn, E478

Lysosomotropic agents, interactions, vascular smooth muscle cells, E292

Malaria, protein synthesis and, individual tissues, E485

Mammotrophs, response to hemolytic placque assays, calcium, cAMP, and dopamine effects, E33?

Maturation: see also Development; Growth onset of puberty, metabolic changes in male (monkey), E385

pituitary cells, luteneizing hormone, follicle-stimulating hormone, and α subunit secretion, male, E145

Meals: see Feeding Mean residence times, compartmental

analysis, E409 Membrane, potentials: see Potentials Metabolic changes, puberty and, male (monkey), E385

Methylglyoxal bis(guanylhydrazone), uptake, paraquat and, lungs, E506

Microcirculation: see also Blood flow; Circulation

prostaglandin synthesis, diabetes effects, aortic and cremaster muscle, E374 testosterone transport, brain, E534

Microspheres blood flow and morphology, relation, pancreatic islets, E43

muscle blood flow, metabolic activation, E63

Minerals, metabolism, chronic alcohol intake and, E584

Mitochondria, calcium ion transport, hormonal action and, E543

Models

leucine metabolism leucine infusion effects, E121 reciprocal pool-specific, E646

radioreceptor assay, polypeptide hormones, E555

residence time moments, E409 Monocyte, culture, insulin binding recovery in, E94

Multiplication stimulation activity, fetal cartilage sulfate uptake (sheep), E115

blood flow: see Blood flow composition, chronic alcohol intake effects, E584

exercise training, iron deficiency and, work performance in, E306 glucose oxidation, E433

metabolism, reduced blood flow and, E63, E70

Muscle, skeletal

diabetic, ketone body metabolism, E131 insulin stimulation of electrogenic pump, extracellular potassium and, E12 membrane potential and glucose uptake,

insulin action, potassium effects,

sarcolemmal vesicles, insulin binding and glucose transport, E398

spontaneous hypertension, altered carnitine metabolism, E183

training effects, enzymatic adaptations, diabetes and, E360

Muscle, smooth

vascular

insulin interactions, E292 prostaglandin synthesis, diabetes effects, E374

Muscle cells, vascular smooth, insulin interaction, E292

Muscle fiber

types

enzymatic adaptations, training and diabetes effects, E360 reduced muscle blood flow and, metabolic adaptation, E63, E70

Naloxone, pituitary and adrenal hormone responses, euhydration and dehydra-tion, E634

Neonate: see Newborn

Neuroglucopenia, pentobarbital effects pancreatic polypeptide release, E577

Neurohypophysis, chronic vasopressin in-fusion, fetal, amniotic fluid concentration and (sheep), E287

Neuropeptides, brain, hemorrhagic shock and, E244

Neurotensin, prolactin release, arachidon-ate metabolism and, E257

Neutron activation analysis, hydration of fat-free body, protein depletion, E227

Newhorn

glucocorticoid receptors, developing brain tissues (sheep), E345

eogenesis regulation, hepatic, E498

glucose homeostasis, intragastric triglyceride administration (pig), E268

premature weaning effects, cholesterol metabolism (guinea pig), E251

triglyceride hydrolysis, ketogenesis and, liver, E478

Nitrogen, body, hydration of fat-free body, protein depletion, E227

Nonidet P-40, lipoprotein lipase recovery, adipose tissue, E107

Norepinephrine, gluconeogenesis and, cold exposure, liver, E281

0

Obesity

hypophysiotropic hormone, adenohypophyseal response to, E380

insulin resistant sodium ion pump activity, adipocytes, E160 iodothyronine 5'-deiodination regulation

in, E209 sympathetic activity, brown adipose tis-

sue, E299 Opioid peptide system, central vasopressin and, hemorrhagic shock, E244

Opioids, pituitary and adrenal hormone response, euhydration and dehydration, E634

Osmoregulation, plasma vasopressin, insu-lin-dependent diabetes, E317

Osteosarcoma cells, cloned, parathyroid hormone binding, E437 Ouabain, electrogenic pump, insulin stimu-

lation, skeletal muscle, E12 Ovary, growth hormone deficiency, somatomedin C effects, granulosa cells,

Overfeeding: see Feeding

Oxidation

glucose, intragastric triglyceride administration and, newborn (pig), E268 leucine, medium-chain triglycerides,

leucine turnover and, trained exercise, E137

Oxidative capacity, reduced muscle blood flow, metabolic activation, E63, E70

Oxidative enzymes, adaptations, diabetes and training effects, skeletal muscle, E360

Oxygen

consumption

iron deficiency and, work performance in, E306

malaria effects, individual tissues, E485

Palmitate, carbon monoxide hypoxia, lung phosphatidylcholine biosynthesis, E89

Pancreas, islet organ, blood flow and morphology, E43

Pancreatectomy, glucoregulatory hormones, secretory patterns, E34
Pancreatic islets, blood flow and morphol-

ogy, relation between, E43 Paraquat, amine uptake and, lungs, E506

Parasites, malaria, protein synthesis and,

Parasympathetic nervous system, pancreatic polypeptide release, pentobarbital effects, E577

Parathyroid hormone calcium and vitamin D deficiency, development of, E568

cardiovascular response to, E187 estrogen effects, reproductive activity and (chicken), E626

hormonal fragments and, renal and osseous binding, E437

Pentobarbital

carbohydrate metabolism and, liver,

polypeptide release, basal and reflexive. E577

Peptides: see also Polypeptides

vasoactive intestinal insulin-stimulated glucose transport and, adipocytes, E608

isolated perfused kidney and, E494 Phosphate, metabolic balance, chronic alcohol intake effects, E584

Phosphatidylcholine, biosynthesis, energy

dependence, lung, E89 Phosphoenolpyruvate carboxykinase, exercise effects, time course, E6

Phosphofructokinase, exercise effects, time course, E6

Phospholipase A₂, arachidonate metabolism, neurotensin-induced prolactin release, E257

Physical conditioning: see Exercise Pituitary cells

anterior

gonadotropin-releasing hormone stimulation of luteinizing hormone release, E619

luteinizing hormone synthesis and release, E165

luteinizing hormone, follicle-stimulating hormone, and free α-subunit secretion, aging male, E145

Pituitary gland adenohypophyseal response, obesity and, E380

anterior

forskolin effects, luteinizing hormone and growth hormone release, E392 mammotroph response to placque as-says, E337

central vasopressin and opioid peptide system, hemorrhagic shock effects, F244

glucocorticoid receptors, developing brain tissues (sheep), E345 gonadal hormone effects, growth hor-

mone release, E276 naloxone effects, euhydration and dehy-

dration, E634 secretion, calcium channel agonist BAY K8644 enhancement of (rat, monkey), E326

Placenta: see also Fetus; Pregnancy full-term, angiotensin II receptors in, E366

cortisol: see Cortisol vasopressin: see Vasopressin

Polyamines, uptake, paraquat and, lungs, E506

Polypeptides: see also Peptides

basal and reflexive release, pentobarbital effects, E577

gastric inhibitory, insulin receptor affinity and cellular sensitivity, adipocytes, E603

immunoreactive gastric inhibitory, molecular heterogeneity of, intradu-nal glucose and fat effects, E195 radioreceptor assay, model, E555

Potassium excretion, vasoactive intestinal peptide effects, kidney, E494

extracellular concentration, insulin stimulation of electrogenic pump and, E12

high, insulin action and, skeletal muscle,

Potassium ions, dependence, luteinizing hormone synthesis and release, E165

Potentials

membrane

glucose uptake and, insulin action, skeletal muscle, E12 insulin action on skeletal muscle, E12

Pregnancy: see also Fetus; Placenta angiotensin II, metabolic clearance (sheep), E49

estrous cycle and, estrogen receptors during, E589

sor response, angiotensin II metabolic clearance, pregnancy (sheep), E49 Progesterone, action, estrous cycle and

pregnancy, E589

Prolactin

growth hormone binding, liver, hypophysectomy and, E56

interaction with adrenal hormone blood pressure regulation and, E614 neurotensin-induced release, arachidonate metabolism and, E257

calcium channel agonist effects, pituitary (rat, monkey), E326 mammotrophs, calcium, cAMP, and dopamine effects, E337

Prostacyclin, synthesis, diabetes effects aortic and cremaster muscle, E374 Prostaglandin, synthesis, diabetes effects,

aortic and cremaster muscle, E374

depletion, hydration of fat-free body, E227 metabolism, model, E646

plasma, binding, brain capillaries, E264 vitamin D-binding, mesenteric lymph,

Protein synthesis

hepatic, nuclear RNA polymerase activity in, E461 α-ketoisocaproate nutritional efficiency,

leucine and, E355 malaria effects, individual tissues, E485

Puberty, metabolic changes, male (monkey), E385

Pump

electrogenic, insulin stimulation of, high extracellular potassium concentration, E12

sodium ion, insulin resistant, adipocytes, obesity and, E160

Pyruvate carboxylase

exercise effects, time course, E6 regulation of hepatic gluconeogenesis and, newborn, E498

Pyruvate kinase, exercise effects, time course, E6

Radioactivity, isotopes, [18N] leucine infusion and leucine metabolism, model,

Radioimmunoassay, gastric inhibitory polypeptide, intraduodenal glucose and fat, E195

Radioisotopes

leucine, medium-chain triglyceride effects, E175

leucine turnover and oxidation, trained exercise, E137

Receptors

albumin, absence in brain capillaries, E264

estrogen, occupied and unoccupied, during estrous cycle and pregnancy,

glucocorticoid, developing brain tissues (sheep), E345

growth hormone, binding to liver membrane, E56

insulin

affinity, gastric inhibitory polypeptides, adipocytes, E603

degradation, binding recovery after, downregulation, vascular smooth mus-

cle cells, E292 radioreceptor assay

insulin, tissue, E561

polypeptide hormones, model, E555 serotonin type 2, regulation of aldoste-

rone production, E234 Renin, plasma activity, naloxone effects,

euhydration and dehydration, E634 Renin-angiotensin system

functional, full-term placenta, E366 hepatic insulinization, diabetes, awake state, E152

Resistance, insulin, insulin deficiency and, E312

Rhythms, circadian, ACTH, mediated by ventral noradrenergic bundle, E219

Ribonucleic acid albumin gene expression, insulin control of, hepatocytes, E447

malaria effects, protein synthesis, E485 nuclear, polymerase activity, tumor-host livers, E461

RNA: see Ribonucleic acid Rubidium, uptake, adipocytes, obesity and, E160

Sarcolemmal vesicles, skeletal muscle, insulin binding and glucose transport,

Serotonin, receptors: see Receptors Sex differences

metabolic changes, puberty and (monkey), E385

pituitary cells, luteinizing hormone, follicle-stimulating hormone, and a-subunit secretion, aging male, E145

Shock, hemorrhagic, central vasopressin and opioid peptide system and, E244

Skeleton, fetal growth, cartilage sulfate uptake and serum sulfate, decreases during gestation (sheep), E115

Sodium, excretion, vasoactive intestinal peptide effects, kidney, E494

Sodium ions, pump: see Pump Somatogenic sites, growth hormone binding, liver, hypophysectomy and, E56

Somatomedin C, growth hormone-induced differentiation, effects on, granulosa cells, E26

Somatomedin, fetal cartilage sulfate uptake and serum sulfate, decreas during gestation (sheep), E115

Somatostatin, insulin, glucagon, and, secretory patterns, prehepatic circulation, E34

Somatrotroph, response, obesity, E380 Spectral analysis, glucoregulatory hormones, secretory patterns, prehepatic circulation, E34

Sterols, neutral, premature weaning and (guinea pig), E251

Streptozotocin, insulin deficiency, insulin resistance and, E312

Stress, cardiovascular, central vasopressin and opioid system, E244

Substrates, turnover, graded exercise effects, E595

Sucrose

overfeeding, regulation of sympathetic activity, obesity and, brown fat,

space, insulin action, high potassium and, skeletal muscle, E17

Sulfate, 55-labeled, fetal, decreases during

gestation (sheep), E115
Surfactant, lung, phosphatidylcholine biosynthesis, carbon monoxide hypoxia, **F**289

Sympathectomy, brown fat, subdiaphragmatic vagotomy and, thermogenesis, E239

Sympathetic activity, regulation, obesity and, brown adipose tissue, E299

Tachyphylaxis, gonadotrope refractoriness and recovery, E619

Temperature, environmental, regulation of iodothyronine 5'-deiodination, obesity, E209

Testosterone, transport, brain, E534 Tetraacetic acid, luteinizing hormone, synthesis and release, E165

Tetracycline, parathyroid hormone effects, calcium and vitamin D deficiency, E568

Thermogenesis

brown adipose activity and hypophysectomy without corticotropin, E333

meal-induced, thyroid hormone metabolism and, E519

diet-induced, brown adipose tissue atrophy, fasting, E99 subdiaphragmatic vagotomy, brown fat

sympathectomy effects and, E239 Thymidine, incorporation, vascular smooth muscle cells, E292

Thyroid hormone, metabolism, mealinduced brown fat thermogenesis and, E519

Thyroxine 5'-deiodinase, regulation, obesity and, E209

Time series, glucoregulatory hormones, secretory patterns, prehepatic circulation, E34

Transcuprein, copper transport and, E77 Transport: see specific site or substance Triglycerides

hepatic, hydrolysis and ketogenesis, E478

intragastric administration, glucose homeostasis and, newborn (pig), E268 medium-chain, leucine turnover and oxidation during infusion of, E175

Triiodothyronine 5'-deiodinase, regulation of, obesity, E209

Triolein, adipose tissue lipoprotein lipase recovery, E107

Urinary excretion, carnitine metabolism spontaneous hypertension and, E183 Uterus, estrogen receptors, estrous cycle and pregnancy, E589

Vagotomy, subdiaphragmatic, brown fat sympathectomy and, thermogenesis,

Vasoactive intestinal peptides: see Peptides Vasopressin

central, hemorrhagic shock and, E244 chronic infusion, fetal, amniotic fluid ionic concentration and (sheep), E287

naloxone effects, euhydration and dehydration, E634

plasma, regulation in insulin-dependent diabetes mellitus, E317

Ventral noradrenergic bundle, mediation, diurnal stimulated and stressinduced ACTH release, E219

Vitamin D, deficiency, parathyroid hor-mone effects, E568

Vitamin D₃

1,25-dihydroxy-, estrogen treatment effects (chicken), E626 25-hydroxy-, binding protein for, mesen-

teric lymph, E1 Vitamin D metabolites, binding protein

for, mesenteric lymph, E1 Volume, cell, insulin action, high potassium and, skeletal muscle, E17

Water

balance, insulin-dependent diabetes, E317

total body, protein depletion and, E227 Weaning, premature, cholesterol metabolism and (guinea pig), E251

Work: see also Exercise

iron deficiency and, exercise training effects, E306

Author Index to Volume 12

Acheson, K. J., E470 Addison, J. L., E506 Adler, A. J., E584 Allars, J., E299 Alonso, G., E219 Alvarez, I. M., E608 Anderson, J. M., E326, E337 Andrews, P. L. R., E239 Andrews, W. J., E160 Aprille, J. R., E498 Arant, B. S., E49 Assenmacher, I., E219 Avogaro, A., E131

Bar, R. S., E603 Barakat, H. A., E6 Barnard, R. J., E398 Battaglia, F. C., E330 Beaufrere, B., E175, E646 Beddoe, A. H., E227 Bellisle, F., E639 Berger, M., E433 Berlyne, G. M., E584 Black, A. L., E137 Blackman, M. R., E145 Blazy, D., E639 Bouillon, R., E1 Bourquin, L., E470 Brannagan, T. H., E392 Bray, G. A., E519 Brennan, W. A., Jr., E498 Brooks, G. A., E137, E306, E595 Bruner, C. A., E201 Brunzell, J. D., E107 Bylund-Fellenius, A.-C., E63,

Cameron, J. L., E385 Canonico, P. L., E257 Cataland, S., E555, E561 Cattalini, M., E175 Cefalu, W. T., E264 Cerasi, E., E292 Chander, A., E89 Chang, H., E312 Citak, M. S., E187 Clark, R. L., E160 Clark, R. S., E506 Cobelli, C., E131 Conn, P. M., E619 Coultrup, S., E49 Cox, B. M., E244 Coy, D. H., E380 Crandell, S. S., E115, E454 Crass, M. F., III, E187 Crepaldi, G., E131 Cronin, M. J., E326, E337, E392

Dall'Aglio, E., E312
Dallman, P. R., E306
Davoren, J. B., E26
De Kreutzenberg, S., E131
Demay, M., E437
Demozay, F., E639
Denton, R. M., E543
Desautels, M., E99
Dixit, P. K., E43
Dodia, C., E89

Dohm, G. L., E6 Drevon, C. A., E1 Duee, P.-H., E268, E478 Dueland, S., E1 Dusmet, M., E470

Edén, S., E56 Eisenberg, J., E264 Elander, A., E63, E70 El-Maghrabi, M. R., E525 El Manoubi, L., E478 Epstein, F. H., E494 Ervin, M. G., E287 Evans, W. S., E276, E326, E392

Faden, A. I., E244
Fern, E. B., E485
Feuerstein, G., E244
Fillipone, E. J., E584
Fink, G. D., E201
Fisher, A. B., E89
Fisher, D. A., E287, E519
Fisher, D. J., E454
Fitzgerald, B. J., E115
Flaim, K. E., E447
Foley, J. E., E160
Forte, L. R., E626
Foster, K. A., E183

Galbo, H., E433 Garby, L., E416 Garlick, P. J., E485 Gerald, K. B., E409 Gerritsen, M. E., E374 Gertz, E. W., E595 Gingerich, R. L., E577 Girard, J. R., E514 Glick, Z., E519 Goltzman, D., E437 Goto, A., E234 Green, A., E608 Grimditch, G. K., E398

Hargrave, B. Y., E350 Harman, S. M., E145 Harris, V., E34 Hartman, A. D., E380 Hasin, M., E292 Hay, W. W., Jr., E330 Haymond, M. W., E121, E175, E646 Heiman, M. L., E380 Helgerud, P., E1 Henderson, S., E306 Henderson, S. A., E137 Herbin, C., E478 Hewlett, E. L., E392 Hill, G. L., E227 Hillgartner, F. B., E209 Hollenbeck, C. B., E312 Hollis, B., E568 Holm, S., E70 Holst, J. J., E195 Holt, S. J., E299 Hsueh, A. J. W., E26 Hutson, S. M., E447

Ianuzzo, C. D., E360 Idström, J.-P., E63, E70 Ishii, M., E234 Iverius, P.-H., E107 Ixart, G., E219

Jackson, G. L., E165 Jacobsen, S., E416 Jansson, L. T., E306 Jefferson, L. S., E447 Jéquier, E., E470 Jinnah, H. A., E619 Johansen, O., E416

Kaiser, D. L., E276
Kaiser, N., E292
Kandé, J., E514
Kang, C. W., E355
Kaplan, S. A., E94, E398
Kasperek, G. J., E6
Keefer, D. A., E337
Klein, L., E568
Koerker, D. J., E385
Kohl, C., E478
Koritnik, D. D., E337
Koritnik, D. R., E326
Kostyo, J. L., E56
Krarup, T., E195
Krieg, R. J., E276
Krim, E., E366
Kute, T. E., E345

Lance, V. A., E380
Landaw, E. M., E534
Langeluttig, S. G., E626
Larsen, K. L., E195
Lassa, C. V., E43
Leake, R. D., E287
Leavitt, W. W., E589
LeMagnen, J., E514, E639
Li, C. H., E26
Lifson, N., E43
Limber, E. R., E276, E392
Linder, M. C., E77
Liu, T.-C., E165
Lloyd, C. E., E447
Lönnroth, C., E461
Louis-Sylvestre, J., E639
Lundholm, K., E461
Lunien, J., E519

Malaval, F., E219
Marchington, D., E299
Marshall, R. N., E115
Martz, A., E626
Matis, J. H., E409
Matsuoka, H., E234
Mazzaferri, E. L., E603
McCormack, J. G., E543
McNurlan, M. A., E485
Menkhaus, A., E251
Mento, P. F., E366
Meschia, G., E330
Messina, E. J., E374
Messina, E. J., E374
Messina, J. L., E56
Milla, D. E., E614
Misbin, R. I., E608

Mitchell, J., E437
Molineaux, C. J., E244
Mondon, C. E., E312
Moore, P. L., E187
Morris, D. L., E595
Morriss, F. H., Jr., E115, E454
Mott, D. M., E160
Mukherjee, A., E145
Murphy, W. A., E380
Myers, T. O., E374

Naden, R. P., E49 Neese, R. A., E595 Nekola, M. V., E380 Nishikawara, M. T., E555, E561 Nissen, S. L., E121 Noble, E. G., E360 Norwich, K. H., E34 Nosadini, R., E131 Nyfeler, F., E525

O'Dorisio, T. M., E555, E561 Okulicz, W. C., E589 O'Rourke, B., E183

Pang, P. K. T., E187
Paquette, T. L., E577
Pardridge, W. M., E264, E534
Pedersen, J. I., E1
Pegg, A. E., E506
Pegorier, J.-P., E268, E478
Pénicaud, L., E514
Peret, J., E268
Perkkiö, M. V., E306
Pfeifer, M. A., E577
Pilkis, S. J., E525
Ploug, T., E433
Poe, B., E251
Porter, J. R., E380

Rannels, D. E., E506
Ravussin, E., E470
Reaven, G. M., E312
Refino, C., E306
Reggio, R., E519
Reibel, D. K., E183
Richter, E. A., E433
Riddle, L., E115
Robertson, G. L., E317
Rodrigues, A. M., E374
Rogol, A. D., E326, E392
Rogus, E. M., E17
Romsos, D. R., E209
Rosa, R. M., E494
Rose, J. C., E345, E350
Rosenberger, J. G., E244
Rosenfeld, C. R., E49
Ross, M. G., E287
Rothwell, N. J., E239, E333
Ruderman, N. B., E433

Saccà, L., E131 Scapagnini, U., E257 Scherer, R. W., E17 Schersten, T., E63, E70 Schutz, Y., E470 Schwenk, W. F., E121, E646 Shetzline, M. A., E561 Shiman, R., E447 Shiota, M., E281 Silva, P., E494 Simos-Nunes,-C., E268 Sims, C., E312 Sirek, A., E34 Sirek, O. V., E34 Sortino, M. A., E257 Spangler, R. S., E152 Sparks, J. W., E330 Speciale, C., E257 Stanley, W. C., E595 Starich, G. H., E603 Steiner, R. A., E385 Sternlicht, E., E398 Stock, M. J., E239, E333 Stoff, J. S., E494 Streat, S. J., E227 Strickland, M. L., E187 Subbiah, M. T. R., E251 Sugano, T., E281 Sugimoto, T., E234 Szafarczyk, A., E219

Taborsky, G. J., Jr., E577 Tanaka, T., E281 Taylor, J. M., E447 Ternell, M., E461 Tessari, P., E121, E131, E175 Thorner, M. O., E276, E326, E392 Tiengo, A., E131 Toffolo, G., E131 Trevisan, R., E131 Tsalikian, E., E121 Tsitouras, P. D., E145 Tur-Sinai, A., E292

Unger, R. H., E34

Vaitkus, P., E34 Van Baelen, H., E1 Vigorito, C., E131 Vinicor, F., E317

Wade, C. E., E634 Walser, M., E355 Wehrly, T. E., E409 Weiss, K. C., E77 Whitcomb, D. C., E555, E561 Whitson, R. H., E94 Wilkes, B. M., E366 Winkler, L., E345 Wisneski, J. A., E595 Wolff, J. E., E330 Wong, K. M., E568 Woods, R. B., E614 Wu, F.-S., E12, E17 Wu, S. Y., E519

Yasumoto, T., E337 York, D. A., E299 Yunker, R. L., E251

Zerbe, R. L., E244, E317 Zierler, K., E12, E17

